

App. F. IX-4

Previous References.

1944-45
(94C)

File No. 374-44
Serial Nos. 1-4

Later References.

GENERAL AND REVENUE SECRETARIAT

Serial Nos. *Four*

Part B for

SUBJECT

*Manufacture of Oxalic Acid from the bark of
Terminalia Arjuna.*

190

H. Nanjankar

25/5/45

206-43-1

3390

C. F. No. 46]

GOVERNMENT OF MYSORE

No. 56-438/43-44 OFFICE OF the Chief Conservator of Fts in Mysore, Bangalore.

Encls.

Date January 1944

To

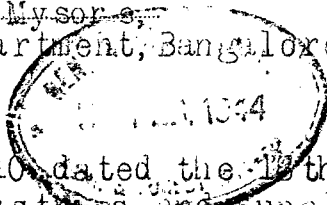
2nd February 1944

R.P. Mallappa, Esq. B.A., LL.B.,

Secretary to the Government of the Maharaja of Mysore, General Department, Bangalore.

Sir,

GENERAL SECRETARY 3 FEB 1944



Referring to memo No. 1010 dated the 13th instant of the Minister for Industries and Supplies, calling for a report on paras 4 to 6 of the letter No. C. 4. 47-(53) dated 3-1-1944, addressed to him by the Dr. M. J. Patel, Chemicals Directorate, New Delhi, I have the honour to state that Terminalia Arjuna, the bark of which, is stated to contain tanning materials, is found along water courses. The quantities of bark that can be collected without destroying the tree by lopping branches may not be very large. Experimental collection for the Industrial Testing Laboratory can be done if desired.

I have the honour to be, Sir, Your most obedient servant,

Curacao.

Chief Conservator of Forests.

1 To the Branch to put up the previous papers of any

2 To the Branch to put up the previous papers of any

3 To the Branch to put up the previous papers of any

5 The letter of the C.C.F. is subd for perusal and orders.

B.U.D.

GE Secy)

6 Jmo 18/2/44

Minister J.S.S.)

67

18/2 Jomo

OFFICE OF THE MINISTER FOR INDUSTRIES & SUPPLIES

FEB 21 1944

No. 4836

8 1) Spcl collection for sphradia at 1TL may be done immediately.

9 2) The spcl officer on deputation re. MFP

May include this in list of items
 he investigated & give data re
 quantities available, cost of
 collection etc

4836
 5987
 910

6/3 7/3

Dpt to CC & sub. After some the file will be
 sent to the Branch re item (1) of the
 Minister's Minute

13

Issue to day & resubmit
 13/3/44

The C. C. F.
 S. F. 4434 A 13-3-44

States that the disposal officer Minor Forester
 produce may be asked to include this in the list of
 items for investigation and give data re: quantities
 available, cost of collection etc.

12 Issued and re subd. This may be sent now to the
 Branch for taking next action about item (1)
 of the Min's Minute

14/3

13 yes
 14/3/44

etc for)

~~SECRET~~ - Ref para 8. supra.

Draft to G. D. J. C. is sub for orders
 The Colln has to be done with the
 15 Extra A draft is however put up.

On which he work he copied out
 in Ref in the etc for
 Fair of plan as revised
 Fair draft sub for orders.
 17 29/3
 29/3/44

5707

Manufacture of oxalic acid from the bark
of Terminalia Arjuna
Issued. no. D. 6358 of 4 4 44

To The C C F

States that Expt^L collⁿ of the bark for extraction
of the acid at the Govt S.T.L. may be got done
immediately & that a report of action taken may be
sent to Govt.

MEMO NO. D. 6359 to C. S. S. C.
Forwards a copy of the above for infoⁿ & necessary action

Letter No. M. 56.438/43 dated the 28th April/44
from the Chief Conservator of Forests. reporting
the action taken by him in the matter.

19 Sub^d For perusal
20 Please ascertain the latest
10/6 8/6 8/6 whether supplies have been made to
the S.T.L.
To 10/6/mug

21 Draft is put up for approval.

10/6
13/6
8/6
13/6

20 Dy
14/6

D 8166. dated 15. 6. 44.

To the Chief Conservator of Forests
Request him to intimate the latest prices
and whether supplies have been made to
Industrial & Testing Laboratory.

11 JUL 1944

Sms A.

21/6

2

Manufacture of oxalic acid from
the bark of Terminalia-argyrea

Letter No. 11. 56-578/113 dated 21.5.44 from A.C.

from the Chief Conservator of Forests in Mysore
stating that he has addressed the 1st Forest Officer
at the G.N. & T.N.
Turner / in no matter and that he would write
out again regarding a stage at which the matter
stands in respect of the hearings from there

23 Sub. further report from the C.C.F. will be
awaited Ref^d para 20. on the previous page.

24 Dew Secy) 8.7.44
25 Secy of S. & L. has the matter
under C. 13/2 P. 14/8

26 Draft in sub d.

27 23/8 21/8

D 37

Dated 23.9.44.

10 The Dir of Eng & Che.

Remember yours.

San "A"

21/10

Letter no 1284/ I.T.L. dated 7.10.44

from the Dir. Et. & S. stating that
experiments were carried out, that a yield
of 9.76 calcium oxalate corresponding to
4-5% of oxalic acid on the weight of the
dry bark has been obtained and that
the yield is not very encouraging.
Subd. for perusal. Ref. Para B.

25/10

Dev. Secy

28/10/44

16/11

OFFICE OF THE MINISTER
FOR PUBLIC WORKS
14 NOV. 1944
No. 3742

Dr. K. A. N. Rao may examine the economics of
this manufacture & say whether the investigation should
be pursued or dropped.
(Min. P. & S.)

15.11.44
15/11
16/11

Draft is subd.

20/11

9/12/44

D 3869 2/12.12.44

To Dir. Et. & S.

1 DEC. 1944

H. & REV. SECTY.

States that Dr. K. A. N. Rao may be asked to examine
the economics of this manufacture.

Letter No. 2375/ S. I. U.S. for info

Ocala and

C. F. 69]

Continuation Sheet

File No. 374/44. of
Current No.

Page.

2149, 3924

Long Term Scheme but study with the
investigation may be dropped

In the circumstances reported by the
Director the investigation may be
dropped

Dec 1944

17.1.45

9/1/45 - Gen. P. W. S.

7.3.45
7/3
7/3

14/2
14/2

B 43

B 43

FOR THE DIRECTOR
6 Dec 1945
No. 6586

Extract from letter No.CH-47(53) dated 3rd January 1944,
from Mr. M.S. Patel, Chemicals Directorate, New Delhi.

* * * * *

4. While I was in Bangalore, I bought for myself some of the Mysore Government publications. In one of the publications I find that a tree known as Terminalia Arjuna grows in appreciable numbers in your State. The bark of this tree contains tanning materials and also calcium oxalate. It may not be possible to develop production of tanning materials from this material at a short notice, but it is possible to manufacture oxalic acid from this bark.

5. This production may not be economical in the post-war period, but at present it is possible to do so. I took up this question some 8 or 9 years ago while I was working with the Department of Industries, Bombay, and I found that oxalic acid could successfully be manufactured from the bark. There are at least 4 or 5 establishments in the Bombay Presidency which produce oxalic acid in appreciable quantity from this bark at present.

6. Your Forest Department may be able to tell you as to how much bark could be found without destroying the trees. If the quantity of bark available in the State at a reasonable price is adequate, your Government Industrial and Testing Laboratories may be in a position to put up a small unit for the production of oxalic acid. The process is very simple and it will not take more than ten or 15 days to fix the details of the process after some trials.

* * * * *

(COPY)

SUBJECT.....

Section *7e7*

File No. *256-43*

Serial No. *2*

Diary No. of letter replied to.....

No. *AF-HH-34*

To

General and Revenue Secretariat

()
the 194

The cc 9

Sur

Date of issue.... *13.3.44*

Signed by.... *Mr H.M.S.*

*With ref me to your letter
No. M 56-438/43-44 of 2nd
Feb 1944 re Terminative Arguments
I am directed to state that the
Special Officer, Minor Forest Produce
may be asked to include this in the
list of items for investigation &
give data regarding quantities
available, cost of collection etc*

I have etc

*Done
for file 13/44*

List of enclosures.....

Copied by.... *W/E*

Examined by.....

*mv.
11/3*

SUBJECT..... *Manufacture of oxalic acid from the bark*
..... *of Terminalia Arjuna.*
.....

Diary No. of letter replied to.....

General and Revenue Secretariat

()
the 194

Date of issue.....

Signed by.....

List of enclosures.....

Copied by.....

Examined by.....

Section

File No.

Serial No.

No.

To

Sir

30/11/44
6358
The C.C.F
With reference to correspondence
ending with letter no A.F 4434 / Ft. 206-43-
2 & 13.3.44 from the General Secy
to Govt. on the above subject, I am
directed to state that experimental
collection of the bark for extraction of
the ~~oxal~~ acid at the Industrial &
Testing Laboratory may be got done
immediately & necessary action
taken in consultation with the Govt. Dir,
Industrial Concerns

A report of action taken may be
made to Govt as early as possible.

I have etc.,

Memo no. *D* 6359
2 4/4

Copy Mc to The Govt Sec J.C. Bangalore
for info? + necessary action with copies & extract of
letter no. C.H-47(53) & 3. 1. 44 from Mr. M.S. Patel,
Chemicals Directorate, New Delhi + letter no. M. 56-438/43-44
& 2. 2. 44 from the C.C.F. to the General Secy. Govt

~~filed~~ By order

P 29/3/44
for Secy. Secy.
10x

Copy to A & F Secy.

GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE.

General and Revenue Secretariat

No.

Dated Bangalore, 4 March 1944.

FROM

The Secretary to the Government of His Highness the Maharaja of Mysore.
Development Department.

To

The Chief Conservator of Forests in Mysore,
Bangalore.

Subject:- Manufacture of Oxalic acid from the bark of Terminalia Arjuna.

Sir,

With reference to correspondence ending with letter No.A.F. 4434/Pt. 206-43-2 dated 13th March 1944 from the General Secretary to Government on the above subject, I am directed to state that experimental collection of the bark for extraction of the acid at the Industrial and Testing Laboratory may be got done immediately and necessary action taken in consultation with the Government Director, Industrial Concerns.

A report of action taken may be made to Government as early as possible.

I have the honor to be,
Sir,
Your most obedient servant,

sd/ C. E. Naynha

for Secretary to Government,
Development Department.

Memo No.

Dated, Bangalore, the 4 March 1944.

Copy of the above is forwarded with compliments to the Government Director, Industrial Concerns, Bangalore for information and necessary action with copies of extract of letter No. C.H-47(53) dated 3rd January 1944 from Mr. M.S. Patel, Chemicals Directorate, New Delhi and

letter

letter No. M.56-438/43-44 dated 2nd February 1944 from the Chief Conservator of Forests to the General Secretary to Government.

By Order,

for Secretary to Government,
Development Department.

Extract from letter No.CH-47(53) dated 3rd January 1944, from Mr.M.S. Patel, Chemicals Directorate, New Delhi.

x

x

x

x

x

4. While I was in Bangalore, I bought x for myself some of the Mysore Government publications. In one of the publications I find that a tree known as Terminalia Arjuna grows in appreciable numbers in your State. The bark of this tree contains tanning materials and also calcium oxalate. It may not be possible to develop production of tanning materials from this material at a short notice, but it is possible to manufacture oxalic acid from this bark.

5. This production may not be economical in the post-war period, but at present it is possible to do so. I took up this question some 8 or 9 years ago while I was working with the Department of Industries, Bombay, and I found that oxalic acid could successfully be manufactured from the bark. There are at least 4 or 5 establishments in the Bombay Presidency which produce oxalic acid in appreciable quantity from this bark at present.

6. Your Forest Department may be able to tell you as to how much bark could be found without destroying the trees. If the quantity of bark available in the State at a reasonable price is adequate, your Government Industrial and Testing Laboratories may be in a position to put up a small unit for the production of ~~an~~ oxalic acid. The process is very simple and it will not take more than ten or 15 days to fix the details of the process after some trials.

x

x

x

x

Letter No. M.56-438/43-44 dated 2nd February 1944 from the Chief Conservator of Forests in Mysore to the Secretary to the Government of Mysore, General Department, Bangalore.

Referring to memo No. 1010 dated the 16th instant of the Minister for Industries and Supplies, calling for a report in paras 4 to 6 of the letter No. C.4.47-(53) dated 3rd January 1944, addressed to him by Dr. M.S.Patel, Chemicals Directorate, New Delhi, I have the honor to state that Terminalia Arjuna, the bark of which is stated to contain tanning materials, is found along water courses. The quantities of bark that can be collected without destroying the tree by lopping branches may not be very large. Experimental collection for the Industrial Testing Laboratory can be done if desired.

"Copies"

F. K. A. M. S.

for Secretary to Govt.

ms

Sw Sept

Copies to A + K. Pr.

No. *16* 56.438/43
Encls. *11*OFFICE OF the Chief Conservator of Fts
in Mysore, Bangalore.Date *29* April 1944

To

✓ The Secretary to Government of
H. H. the Maharaja of Mysore,
Development Department, Bangalore.

Sir,

RE:- Manufacture of oxalic acid from the
bark of Terminalia arjuna.

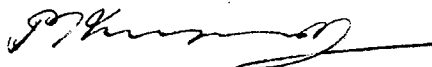
With reference to your letter No. D. 6358/I&C dated the 4th instant on the above subject, I have the honour to inform you that the District Forest Officer Tumkur District has been instructed to supply as much bark as is needed for the experiment to the General Manager, Government Industrial Testing and Laboratory, Malleswaram, and report the fact to me. The latter officer has been requested to intimate the quantity of bark required and also its specifications, if any, such as green or dry etc.,

The Government Director Industrial Concerns has been informed of the action taken by me in the matter.

I have the honour to be,

Sir,

Your most obedient servant,



Chief Conservator of Forests (I/C).

To

D 8766 of 15/6
The Chief Conservator of Forests
in Mysore, B'lore

Sir,

Sub:- Manufacture of oxalic acid from
the bark of Terminalia Arjuna.

With reference to your letter NO. M.
56.438/43 dated, the 28th April, 1944 on the
above subject, I am directed to request
you to be so good as to intimate the
latest position and whether supplies
have been made to the Industrial &
Testing Laboratory

I have etc.

Memo. no. D 8766 of 15/6

Copy W/c. to the G. D. S. C.

of this office memo no. D. 6359 of 4.4.44.

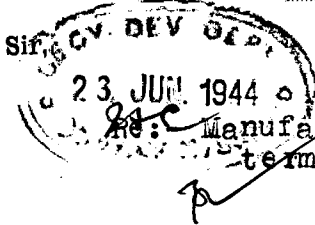
By order

TO 16/6/44
Deputy Secy

No. M-56-438/43OFFICE OF Chief Conservator of Forests in Mysore.
Bangalore.Encls. oneDate 21-6-44

To

The Secretary to the Government
of H. H. the Maharaja of Mysore,
Development Department, Bangalore.



Manufacture of Oxalic acid from the bark of
terminalia arjuna.

With reference to your letter No.D.8186/I&C. dated

15-6-44 on the subject, I have the honour to enclose herein
a copy of my communication addressed to the District Forest
Officer, Tumkur and copied to the Government Director
Industrial Concerns and the General Manager, Government
Industrial and Testing Laboratory.

I have not heard either from the District Forest
Officer or the General Manager of the Industrial and -
Testing Laboratory, as to the action taken by them in the
matter. I have reminded them both for their replies and
will address you again in regard to the stage at which
the matter stands, on receipt of their replies.

I have the honour to be,

Sir,

Your most obedient servant,

C. A. S. S.

Chief Conservator of Forests.

Mr. HSN

1601
26/6

Copy of letter No.M.56-438/43-44 dated 29-4-44
from the Chief Conservator of Forests, Bangalore, to the
District Forest Officer, Tumkur District.

re:- manufacture of Oxalic acid from the bark
of Terminalia Arjuna.

Has the honour to forward herewith a copy of
Development Secretary's letter No.D.6358/L&O. dated 4th
instant and to request that action may be taken imme-
diately in consultation with the General Manager, Government
Industrial and Testing Laboratory, Malleswaram P.O. to
collect and supply as much quantity of the bark referred
to above as is required for the experiment and submit
a report to this office about the actual quantity supplied
and the cost incurred thereon. The bark may be collected
out of the trees that are being felled in ~~xxxxxxxxxx~~
Ulalebetta State Forest for supply of fuel to Tobacco
barns.

The quantity required and specifications if any
will be intimated to him by the General Manager, Indus-
trial and Testing Laboratory,

Copy to:-

The Government Director, Industrial Concerns, with
compliments.

The General Manager, Government Industrial and Testing
Laboratory, Malleswaram P.O. The quantity of
Terminalia Arjuna bark required for the experi-
mental extraction of Oxalic Acid and the -
specifications if any, (whether green or dry
quality required etc.) may be kindly intimated
both to the District Forest Officer, Tumkur Dis-
trict, Tumkur, and this office early.

B.P. Ramaswami
Chief Conservator of Forests.

D 37
23549
20

St 370-111-2
—

The Dir. Eng. & Chem. Industries

Sir,

Manufacture of Oxalic Acid from
the bank of Termination argument

I am directed to write
reference to letter no. M.56-438/
43-4 dated 29.4.64 from the
Chief Com. of Forests addressed to the
Govt. Dir. S.C. on the above subject
and to request you to intimate
how the matter stands

I have etc



Dr. S. S. Jeyaraj

23/8
23/8



Dated 3rd October, 1944.

No. 1284/I.T.L.

The Secretary to the Government of His
Highness the Maharaja of Mysore,
Development Department, Public Offices,
Bangalore.

Sir,

Subject:- Manufacture of Oxalic Acid from the
bark of Terminalia Arjuna.

With reference to your letter No.D.37 dated the
23rd September 1944, I have the honour to state that
the bark was obtained from the District Forest Office,
Tumkur, and experiments were carried out in the
Industrial & Testing Laboratory as desired by Govern-
ment in their letter No.D.6358 dated 4th April 1944.

A yield of about 9% calcium oxalate corresponding
to 4-5% of oxalic acid on the weight of the dry bark
has been obtained. This yield is not very encouraging
considering that "the quantities of bark that can be
collected without destroying the tree by lopping branches
may not be very large" (letter No.M.56-438/43-44 dated
2nd February 1944 from the Chief Conservator of Forests
to General Secretary to Government). The economies
of the proposition can be known only after information
about the cost of the bark and the quantity available
are known. Some special equipment such as lead lined
tanks with steam coils would also be necessary.

I have the honour to be,
Sir,
Your most obedient servant,

B. Viswanath
Director,
Engineering & Chemical Industries.

RVK)

B. VISWANATH. B.E.
DIRECTOR
ENGINEERING AND CHEMICAL INDUSTRIES

22374-44-4 3974
BANGALORE
Dated 4th January, 1945.
HSD
SK

No. 2375.

The Secretary to the Government of
His Highness the Maharaja of Mysore,
Development Department, Public Offices,
B a n g a l o r e .

Sir,

Subject: Manufacture of Oxalic Acid from
the bark of Terminalia Arjuna.

With reference to your letter No. 3869/I.&.C.

2149
579
6/11
dated 12.12.1944 I have the honour to state that as
mentioned in my letter No. 1284/I.T.L dated the 3rd
October 1944, the yield is not encouraging and in the
Chief Conservator of Forest's opinion, " the quanti-
ties of bark that can be collected without destroying
the tree by lopping branches may not be very large."
In the circumstances, Dr. K. A. N. Rao and I are of
the opinion that the investigation may be dropped.

I have the honour to be,
Sir,
Your most obedient servant,
B. Viswanath
Director,
Engg. &. Chemical Industries.

an
C. I.

D 3869
9/12/42

1/2

20 The Sun Express

Sir,

Manufacture of Oxalic Acid
from the bark of Terminalia Arjuna

With refer to your letter
no 1284 / I.T.L. on the dated
7.10.41 on the above subject

I am directed to state that
Dr. ^{R A N} ~~A~~ Ashwathamaya ~~and~~ Rao may
be asked to
examine the economics of this
manufacture and a report as
to whether the investigation
should be pursued or dropped
may be submitted

I have etc

T8 9/12/42
In Sec. Secy

CS
9/12/44

mm J 20/11